

SEQUENCE LISTING

<110> MISHRA, LOPA
 <120> GENES CODING FOR EARLY LIVER DEVELOPMENT...
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 <151> 1999-11-01
 <150> PCT/US98/08656
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 <150> US 08/841,349
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| Val Met Thr Leu Phe Tyr Ser Lys Ser Gln Arg Pro Glu Arg Lys | |
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| acc ttc cag gtc aag ttg gag acg cgc cag atc aca tgg agc cgc ggc | 1868 |
| Thr Phe Gln Val Lys Leu Glu Thr Arg Gln Ile Thr Trp Ser Arg Gly | |
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| Ala Asp Lys Ile Glu Gly Ser Ser Lys Cys Ala Pro Leu Arg Pro Ala | |
| 70 75 80 | |
| tcg cgc ctg ccc gcc tcc caa aca ctt ggg caa act ttc ggg cct cgc | 1964 |
| Ser Arg Leu Pro Ala Ser Gln Thr Leu Gly Gln Thr Phe Gly Pro Arg | |
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| Gly Arg Cys Ile | Thr Asp Leu Tyr Thr Asp Leu | Arg Asp | 25 30 35 | | | |
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| 40 45 50 55 | 45 50 | 55 | | | | |
| gca aga gtg tcc tgc cga atc aca gac | ctg tac acg gac | ctt cga gat | Ala Arg Val Ser Cys Arg Ile | Thr Asp Leu Tyr Thr Asp Leu | Arg Asp | 545 |
| Gly Arg Met Leu Ile Lys Leu | Glu Val Leu Ser Gly | Glu Arg Leu | 60 65 70 | | | |
| gga cgg atg ctc atc aag cta ctg gag | gtc ctc tct gga gag | agg ctg | Gly Arg Met Leu Ile Lys Leu | Glu Val Leu Ser Gly | Glu Arg Leu | 593 |
| 75 80 85 | 80 | 85 | | | | |
| cct aaa ccc act aag gga cgg atg cgg atc cac | tgt ctg gag aat gtc | 641 | Pro Lys Pro Thr Lys Gly Arg Met Arg Ile His Cys | Leu Glu Asn Val | | |
| 90 95 100 | 95 | 100 | | | | |
| gac aag gct ctt caa ttc ctg aaa gag cag | aga gtc cat ctt gag aac | 689 | Asp Lys Ala Leu Gln Phe Leu Lys Glu Gln Arg | Val His Leu Glu Asn | | |
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| atg ggc tcc cat gac att gtg gat gga aac cac | cggttgc acc ctc ggc | 737 | Met Gly Ser His Asp Ile Val Asp Gly Asn His Arg | Leu Thr Leu Gly | | |
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| ctc atc tgg aca att att ctg cgc ttc cag atc | cag gat att agt gtg | 785 | Leu Ile Trp Thr Ile Leu Arg Phe | Gln Ile Gln Asp Ile | Ser Val | |
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| gag act gaa gat aac aaa gag | aaa aag tct gct aag gat gca | 833 | Glu Thr Glu Asp Asn Lys Glu Lys Ser Ala Lys | Asp Ala Leu Leu | | |
| 155 160 165 | 160 | 165 | | | | |
| ctg tgg tgc cag atg aag aca gct | ggg tac ccc aat gtc aac att cac | 881 | Leu Trp Cys Gln Met Lys Thr Ala | Gly Tyr Pro Asn Val Asn Ile His | | |
| 170 175 180 | 175 | 180 | | | | |
| aat ttc acc act agc tgg agg gat ggc atg gcc | ttc aat gca ctg ata | 929 | Asn Phe Thr Thr Ser Trp Arg Asp Gly Met Ala | Phe Asn Ala Leu Ile | | |
| 185 190 195 | 190 | 195 | | | | |
| cat aaa cat cgg cct gac | ctg ata gat ttt gat aaa ctg aag aaa tct | 977 | His Lys His Arg Pro Asp Leu Ile Asp Phe | Asp Lys Leu Lys Lys Ser | | |
| 200 205 210 215 | 205 210 | 215 | | | | |
| aat gca cac tac aat ctg cag aat gca | ttt aac ctg gca gag cag cac | 1025 | Asn Ala His Tyr Asn Leu Gln Asn Ala | Phe Asn Leu Ala Glu Gln His | | |
| 220 225 230 | 225 | 230 | | | | |
| ctt ggc ctc act aaa ctg tta gac | cct gaa gat atc agt gtg gac cac | 1073 | Leu Gly Leu Thr Lys Leu Leu Asp | Pro Glu Asp Ile Ser Val Asp His | | |
| 235 240 245 | 240 | 245 | | | | |
| cct gat gag aag tct atc atc aca tac | gtg gtg act tac tac cac tac | 1121 | Pro Asp Glu Lys Ser Ile Ile Thr Tyr Val Val | Thr Tyr Tyr His Tyr | | |
| 250 255 260 | 255 | 260 | | | | |
| ttc tcc aag atg aag gcc ttg | gct gtc gaa gga aag cgc att gga aag | 1169 | Phe Ser Lys Met Lys Ala Leu Ala Val Glu | Gly Lys Arg Ile Gly Lys | | |
| 265 270 275 | 270 | 275 | | | | |
| gtg ctt gat aat gct ata gaa aca gag | aaa atg att gag aag tac gag | 1217 | Val Leu Asp Asn Ala Ile Glu Thr Glu Lys | Met Ile Glu Lys Tyr Glu | | |
| 280 285 290 295 | 285 | 290 | | | | |
| aca ctt gct tct gac | ctg gag tgg att gaa caa acc atc atc | 1265 | | | | |

| | | | | | | | | | | | | | | | | |
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| Thr | Leu | Ala | Ser | Asp | Leu | Leu | Glu | Trp | Ile | Glu | Gln | Thr | Ile | Ile | Ile | |
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| Leu | Asn | Asn | Arg | Lys | Phe | Ala | Asn | Ser | Leu | Val | Gly | Val | Gln | Gln | Gln | |
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| ctc | caa | gca | tcc | aac | acg | tac | cgc | aca | gtg | gag | aaa | cca | cct | aag | ttt | 1361 |
| Leu | Gln | Ala | Phe | Asn | Thr | Tyr | Arg | Thr | Val | Glu | Lys | Pro | Pro | Lys | Phe | |
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| act | gag | aag | ggg | aat | ttg | gag | gtg | ctc | ctt | ttc | gcg | att | cag | agc | aag | 1409 |
| Thr | Glu | Lys | Gly | Asn | Leu | Glu | Val | Leu | Phe | Ala | Ile | Gln | Ser | Lys | | |
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| Met | Arg | Ala | Asn | Asn | Gln | Lys | Val | Tyr | Met | Pro | Arg | Glu | Gly | Lys | Leu | |
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| atc | tct | gac | atc | aac | aag | gcc | tgg | gaa | aga | ctg | gaa | aaa | gca | gaa | cat | 1505 |
| Ile | Ser | Asp | Ile | Asn | Lys | Ala | Trp | Glu | Arg | Leu | Glu | Lys | Ala | Glu | His | |
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| gag | aga | gaa | ctg | gtc | ctg | cg | aat | gag | ctc | ata | cg | cag | gaa | aaa | ctg | 1553 |
| Glu | Arg | Glu | Leu | Ala | Leu | Arg | Asn | Glu | Leu | Ile | Arg | Gln | Glu | Lys | Leu | |
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| gaa | caa | ctc | gcc | cga | aga | ttt | gat | cgc | aag | gca | gct | atg | agg | gag | aca | 1601 |
| Glu | Gln | Leu | Ala | Arg | Arg | Phe | Asp | Arg | Lys | Ala | Ala | Met | Arg | Glu | Thr | |
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| tgg | ctg | agt | gaa | aac | cag | cgt | ctt | gtg | tct | cag | gac | aac | ttt | gga | ttt | 1649 |
| Trp | Leu | Ser | Glu | Asn | Gln | Arg | Leu | Val | Ser | Gln | Asp | Asn | Phe | Gly | Phe | |
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| gac | ctt | ccc | gct | gtt | gag | gtc | acc | aaa | aaa | cac | gag | gcc | att | gag | | 1697 |
| Asp | Leu | Pro | Ala | Val | Glu | Ala | Ala | Thr | Lys | Lys | His | Glu | Ala | Ile | Glu | |
| | | | | 440 | | | 445 | | | | 450 | | | | 455 | |
| aca | gac | atc | gct | gca | tat | gaa | gaa | cga | gtt | cag | gcc | gtg | gtg | gct | gtg | 1745 |
| Thr | Asp | Ile | Ala | Ala | Tyr | Glu | Glu | Arg | Val | Gln | Ala | Val | Val | Ala | Val | |
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| Ala | Arg | Glu | Leu | Glu | Ala | Glu | Asn | Tyr | His | Asp | Ile | Lys | Arg | Ile | Thr | |
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| gcg | agg | aag | gac | aat | gtc | atc | cgg | ctc | tgg | gaa | tac | ttg | ctg | gaa | ctg | 1841 |
| Ala | Arg | Lys | Asp | Asn | Val | Ile | Arg | Leu | Trp | Glu | Tyr | Leu | Glu | Leu | | |
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| Leu | Arg | Ala | Arg | Arg | Gln | Arg | Leu | Glu | Met | Asn | Leu | Gly | Leu | Gln | Lys | |
| | | | | 505 | | | 510 | | | | 515 | | | | | |
| ata | ttc | cag | gaa | atg | ctt | tat | att | atg | gac | tgg | atg | gat | gaa | atg | aag | 1937 |
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| Val | Leu | Leu | Leu | Ser | Gln | Asp | Tyr | Gly | Lys | His | Leu | Leu | Gly | Val | Glu | |
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| Asp | Leu | Leu | Gln | Lys | His | Ala | Leu | Val | Glu | Ala | Asp | Ile | Ala | Ile | Gln | |
| | | | | 555 | | | 560 | | | | 565 | | | | | |
| gca | gag | cgt | gta | aga | ggt | gtg | aat | gcc | tct | gcc | cag | aag | ttt | gca | aca | 2081 |
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| | | | | 570 | | | 575 | | | | 580 | | | | | |
| gat | ggg | gaa | ggc | tac | aag | cca | tgt | gac | ccc | cag | gta | att | cga | gac | cgt | 2129 |
| Asp | Gly | Glu | Gly | Tyr | Lys | Pro | Cys | Asp | Pro | Gln | Val | Ile | Arg | Asp | Arg | |
| | | | | 585 | | | 590 | | | | 595 | | | | | |
| gtt | gcc | cac | atg | gag | ttc | tgc | tat | caa | gag | ctt | tgt | cag | ctg | gct | gcc | 2177 |
| Val | Ala | His | Met | Glu | Phe | Cys | Tyr | Gln | Glu | Leu | Cys | Gln | Leu | Ala | Ala | |
| | | | | 600 | | | 605 | | | | 610 | | | | 615 | |
| gag | cgt | agg | gct | cgc | ctg | gaa | gag | tcc | cgt | cgc | ctc | tgg | aag | ttc | tcc | 2225 |
| Glu | Arg | Arg | Ala | Arg | Leu | Glu | Glu | Ser | Arg | Arg | Leu | Trp | Lys | Phe | Phe | |
| | | | | 620 | | | 625 | | | | 630 | | | | | |
| tgg | gag | atg | gca | gaa | gag | gaa | ggc | tgg | ata | cga | gag | aag | gaa | aag | atc | 2273 |
| Trp | Glu | Met | Ala | Glu | Glu | Gly | Trp | Ile | Arg | Glu | Lys | Glu | Ile | | | |

| | | | |
|---|-----|-----|------|
| 635 | 640 | 645 | |
| ctg tcc tct gat gat tac ggg aaa gac ttg acc agt gtc atg cgc ctg | | | 2321 |
| Leu Ser Ser Asp Asp Tyr Gly Lys Asp Leu Thr Ser Val Met Arg Leu | | | |
| 650 | 655 | 660 | |
| ctg agc aag cac cgg gca ttt gag gat gag atg agt ggc cgt agt ggc | | | 2369 |
| Leu Ser Lys His Arg Ala Phe Glu Asp Glu Met Ser Gly Arg Ser Gly | | | |
| 665 | 670 | 675 | |
| cat ttt gag cag gcc att aaa gaa ggt gaa gac atg att gca gag gaa | | | 2417 |
| His Phe Glu Gln Ala Ile Lys Glu Gly Glu Asp Met Ile Ala Glu Glu | | | |
| 680 | 685 | 690 | 695 |
| cac ttt gga tcg gaa aag atc cgt gag aga atc att tat atc cgg gag | | | 2465 |
| His Phe Gly Ser Glu Lys Ile Arg Glu Arg Ile Ile Tyr Ile Arg Glu | | | |
| 700 | 705 | 710 | |
| cag tgg gcc aac ctg gaa cag ctc tca gcc att agg aag aag cgc cta | | | 2513 |
| Gln Trp Ala Asn Leu Glu Gln Leu Ser Ala Ile Arg Lys Lys Arg Leu | | | |
| 715 | 720 | 725 | |
| gag gaa gcc tca tta ctg cac cag ttc cag gct gat gct gat gat att | | | 2561 |
| Glu Glu Ala Ser Leu Leu His Gln Phe Gln Ala Asp Ala Asp Asp Ile | | | |
| 730 | 735 | 740 | |
| gat gct tgg atg tta gat ata ctc aag att gtc tcc agc aat gat gtg | | | 2609 |
| Asp Ala Trp Met Leu Asp Ile Leu Lys Ile Val Ser Ser Asn Asp Val | | | |
| 745 | 750 | 755 | |
| ggc cat gat gag tac tcc acg cag tct ctg gtc aag aag cat aaa gat | | | 2657 |
| Gly His Asp Glu Tyr Ser Thr Gln Ser Leu Val Lys Lys His Lys Asp | | | |
| 760 | 765 | 770 | 775 |
| gta gca gaa gag atc acc aac tgc agg ccc act att gac aca ctg cat | | | 2705 |
| Val Ala Glu Glu Ile Thr Asn Cys Arg Pro Thr Ile Asp Thr Leu His | | | |
| 780 | 785 | 790 | |
| gag caa gcc agt gcc ctt cca caa gca cat gca gag tct cca gat gtg | | | 2753 |
| Glu Gln Ala Ser Ala Leu Pro Gln Ala His Ala Glu Ser Pro Asp Val | | | |
| 795 | 800 | 805 | |
| aag ggc cgg ctg gca gga att gag gag cgc tgc aag gag atg gca gag | | | 2801 |
| Lys Gly Arg Leu Ala Gly Ile Glu Glu Arg Cys Lys Glu Met Ala Glu | | | |
| 810 | 815 | 820 | |
| tta aca cgg cta agg aag cag gct ctg cag gac acc ctg gcc ctg tac | | | 2849 |
| Leu Thr Arg Leu Arg Lys Gln Ala Leu Gln Asp Thr Leu Ala Leu Tyr | | | |
| 825 | 830 | 835 | |
| aag atg ttc agt gag gct gat gcc tgt gag ctc tgg att gac gag aag | | | 2897 |
| Lys Met Phe Ser Glu Ala Asp Ala Cys Glu Leu Trp Ile Asp Glu Lys | | | |
| 840 | 845 | 850 | 855 |
| gag cag tgg ctc aac aac atg cag atc cca gag aag ctg gag gac ctg | | | 2945 |
| Glu Gln Trp Leu Asn Asn Met Gln Ile Pro Glu Lys Leu Glu Asp Leu | | | |
| 860 | 865 | 870 | |
| gaa gtc atc cag cac aga ttt gag agc cta gaa cca gaa atg aac aac | | | 2993 |
| Glu Val Ile Gln His Arg Phe Glu Ser Leu Glu Pro Glu Met Asn Asn | | | |
| 875 | 880 | 885 | |
| cag gct tcc cgg gtt gct gtg aac cag att gca cgg cag ctg atg | | | 3041 |
| Gln Ala Ser Arg Val Ala Val Val Asn Gln Ile Ala Arg Gln Leu Met | | | |
| 890 | 895 | 900 | |
| cac aat ggc cac ccc agt gaa aag gaa atc aga gct cag caa gac aaa | | | 3089 |
| His Asn Gly His Pro Ser Glu Lys Glu Ile Arg Ala Gln Gln Asp Lys | | | |
| 905 | 910 | 915 | |
| ctc aac acg agg tgg agt cag ttc aga gaa ctg gtg gac agg aaa aag | | | 3137 |
| Leu Asn Thr Arg Trp Ser Gln Phe Arg Glu Leu Val Asp Arg Lys Lys | | | |
| 920 | 925 | 930 | 935 |
| gat gct ctt ctg tct gcc ctg agc atc cag aac tac cac ctc gag tgc | | | 3185 |
| Asp Ala Leu Leu Ser Ala Leu Ser Ile Gln Asn Tyr His Leu Glu Cys | | | |
| 940 | 945 | 950 | |
| aat gaa acc aaa tcc tgc atc cgg gag aag acc aag gtc atc gag tct | | | 3233 |
| Asn Glu Thr Lys Ser Cys Ile Arg Glu Lys Thr Lys Val Ile Glu Ser | | | |
| 955 | 960 | 965 | |
| acc caa gac ctt ggc aat gac ctg gca ggt gtc atg gcc ctg cag tgc | | | 3281 |
| Thr Gln Asp Leu Gly Asn Asp Leu Ala Gly Val Met Ala Leu Gln Cys | | | |
| 970 | 975 | 980 | |
| aag ctg act ggc atg gaa cga gac ttg gta gcc att gag gcg aag ctg | | | 3329 |

| | | | | | | | | | | | | | | | | |
|------|-----|-----|-----|------|-----|-----|-----|-----|------|-----|-----|-----|-----|-----|------|------|
| Lys | Leu | Thr | Gly | Met | Glu | Arg | Asp | Leu | Val | Ala | Ile | Glu | Ala | Lys | Leu | |
| 985 | | | | 990 | | | | 995 | | | | | | | | |
| agt | gac | ctg | cag | aaa | gaa | gct | gag | aag | ctg | gag | tcc | gag | cac | cct | gac | 3377 |
| Ser | Asp | Leu | Gln | Lys | Glu | Ala | Glu | Lys | Leu | Glu | Ser | Glu | His | Pro | Asp | |
| 1000 | | | | 1005 | | | | | 1010 | | | | | | 1015 | |
| cag | gct | caa | gct | atc | ctg | tct | cg | gtt | gcc | gag | atc | agt | gat | gtg | tgg | 3425 |
| Gln | Ala | Gln | Ala | Ile | Leu | Ser | Arg | Leu | Ala | Glu | Ile | Ser | Asp | Val | Trp | |
| | | | | 1020 | | | | | 1025 | | | | | | 1030 | |
| gag | gaa | atg | aag | aca | acc | ctg | aag | aac | cga | gag | gcc | tcc | ctg | gga | gag | 3473 |
| Glu | Glu | Met | Lys | Thr | Leu | Lys | Asn | Arg | Glu | Ala | Ser | Leu | Gly | Glu | | |
| | | | | 1035 | | | | | 1040 | | | | | | 1045 | |
| gcc | agc | aag | ctg | cag | cag | ttt | ctg | cg | gac | ttg | gac | gac | ttc | cag | tct | 3521 |
| Ala | Ser | Lys | Leu | Gln | Gln | Phe | Leu | Arg | Asp | Leu | Asp | Asp | Phe | Gln | Ser | |
| | | | | 1050 | | | | | 1055 | | | | | | 1060 | |
| tgg | ctc | tcc | agg | acc | cag | act | gct | atc | gcc | tca | gag | gac | atg | ccc | aat | 3569 |
| Trp | Leu | Ser | Arg | Thr | Gln | Thr | Ala | Ile | Ala | Ser | Glu | Asp | Met | Pro | Asn | |
| | | | | 1065 | | | | | 1070 | | | | | | 1075 | |
| acc | ctc | act | gag | gca | gag | aag | ctt | ctc | aca | cag | cac | gag | aat | atc | aaa | 3617 |
| Thr | Leu | Thr | Glu | Ala | Glu | Lys | Leu | Leu | Thr | Gln | His | Glu | Asn | Ile | Lys | |
| | | | | 1080 | | | | | 1085 | | | | | | 1090 | 1095 |
| aat | gag | atc | gac | aat | tat | gag | gaa | gac | tac | cag | aag | atg | cgg | gac | atg | 3665 |
| Asn | Glu | Ile | Asp | Asn | Tyr | Glu | Glu | Asp | Tyr | Gln | Lys | Met | Arg | Asp | Met | |
| | | | | 1100 | | | | | 1105 | | | | | | 1110 | |
| ggc | gag | atg | gtc | acc | cag | ggg | cag | act | gat | gcc | cag | tat | atg | ttt | ctg | 3713 |
| Gly | Glu | Met | Val | Thr | Gln | Gly | Gln | Thr | Asp | Ala | Gln | Tyr | Met | Phe | Leu | |
| | | | | 1115 | | | | | 1120 | | | | | | 1125 | |
| cg | cag | cg | ctg | cag | gcc | tta | gac | act | ggc | tgg | aat | gag | ctc | cac | aaa | 3761 |
| Arg | Gln | Arg | Leu | Gln | Ala | Leu | Asp | Thr | Gly | Trp | Asn | Glu | Leu | His | Lys | |
| | | | | 1130 | | | | | 1135 | | | | | | 1140 | |
| atg | tgg | gag | aac | agg | caa | aac | ctc | ctc | tcc | cag | tcc | cat | gcc | tac | cag | 3809 |
| Met | Trp | Glu | Asn | Arg | Gln | Asn | Leu | Leu | Ser | Gln | Ser | His | Ala | Tyr | Gln | |
| | | | | 1145 | | | | | 1150 | | | | | | 1155 | |
| cag | tcc | ctt | agg | gac | acc | aaa | caa | gct | gaa | gct | ttt | ctt | aat | aac | cag | 3857 |
| Gln | Phe | Leu | Arg | Asp | Thr | Lys | Gln | Ala | Glu | Ala | Phe | Leu | Asn | Asn | Gln | |
| | | | | 1160 | | | | | 1165 | | | | | | 1170 | 1175 |
| gag | tat | ttt | tgg | gt | cat | act | gaa | atg | ccc | acc | acc | ctg | gaa | gga | gct | 3905 |
| Glu | Tyr | Val | Leu | Ala | His | Thr | Glu | Met | Pro | Thr | Thr | Leu | Glu | Gly | Ala | |
| | | | | 1180 | | | | | 1185 | | | | | | 1190 | |
| gaa | gca | gcc | att | aaa | aag | cag | gag | gac | ttc | atg | acc | acc | atg | gat | gcc | 3953 |
| Glu | Ala | Ala | Ile | Lys | Lys | Gln | Glu | Asp | Phe | Met | Thr | Thr | Met | Asp | Ala | |
| | | | | 1195 | | | | | 1200 | | | | | | 1205 | |
| aac | gag | gag | aag | atc | aat | gct | gtt | gtg | gag | act | ggc | cga | aga | ctg | gtg | 4001 |
| Asn | Glu | Glu | Ile | Asn | Ala | Val | Val | Glu | Thr | Gly | Arg | Arg | Leu | Val | | |
| | | | | 1210 | | | | | 1215 | | | | | | 1220 | |
| agc | gat | ggg | aac | atc | acc | ttc | gac | cg | atc | cag | gag | aag | gtg | gac | tct | 4049 |
| Ser | Asp | Gly | Asn | Ile | Asn | Ser | Asp | Arg | Ile | Gln | Glu | Lys | Val | Asp | Ser | |
| | | | | 1225 | | | | | 1230 | | | | | | 1235 | |
| att | gac | gac | aga | cac | agg | aat | cga | gaa | gca | gcc | agt | gaa | ctt | ctg | | 4097 |
| Ile | Asp | Asp | Arg | His | Arg | Lys | Asn | Arg | Glu | Ala | Ala | Ser | Glu | Leu | Leu | |
| | | | | 1240 | | | | | 1245 | | | | | | 1250 | 1255 |
| atg | agg | tta | aag | gac | aac | cgt | gat | cta | cag | aag | tcc | ctg | caa | gat | tgt | 4145 |
| Met | Arg | Leu | Lys | Asp | Asn | Arg | Asp | Leu | Gln | Lys | Phe | Leu | Gln | Asp | Cys | |
| | | | | 1260 | | | | | 1265 | | | | | | 1270 | |
| caa | gag | ctg | tcc | ctc | tgg | atc | aat | gaa | aag | atg | ctt | aca | gct | caa | gac | 4193 |
| Gln | Glu | Leu | Ser | Leu | Trp | Ile | Asn | Glu | Lys | Met | Leu | Thr | Ala | Gln | Asp | |
| | | | | 1275 | | | | | 1280 | | | | | | 1285 | |
| atg | tct | tat | gat | gaa | gcc | aga | aat | ctg | cac | agt | aaa | tgg | tta | aag | cat | 4241 |
| Met | Ser | Tyr | Asp | Glu | Ala | Arg | Asn | Leu | His | Ser | Lys | Trp | Leu | Lys | His | |
| | | | | 1290 | | | | | 1295 | | | | | | 1300 | |
| caa | gca | ttt | atg | g | g | g | a | a | g | a | t | g | t | g | ctt | 4289 |
| Gln | Ala | Phe | Met | Ala | Glu | Leu | Ala | Ser | Asn | Lys | Glu | Trp | Leu | Asp | Lys | |
| | | | | 1305 | | | | | 1310 | | | | | | 1315 | |
| att | gag | aag | gaa | gga | atg | cag | ctt | att | tca | gaa | aag | cca | gaa | aca | gaa | 4337 |
| Ile | Glu | Lys | Glu | Gly | Met | Gln | Leu | Ile | Ser | Glu | Lys | Pro | Glu | Thr | Glu | |
| | | | | 1320 | | | | | 1325 | | | | | | 1330 | 1335 |

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|---|------|
| gct gtg gta aag gaa aaa ctc act ggt tta cat aaa atg tgg gaa gtc Ala Val Val Lys Glu Lys Leu Thr Gly Leu His Lys Met Trp Glu Val 1340 1345 1350 | 4385 |
| ctt gaa tcc aca acc cag acc aag gcc cag cgg ctc ttt gat gca aat Leu Glu Ser Thr Thr Gln Thr Lys Ala Gln Arg Leu Phe Asp Ala Asn 1355 1360 1365 | 4433 |
| aag gct gag ctt ttc aca caa agc tgc gca gat ctt gac aaa tgg cta Lys Ala Glu Leu Phe Thr Gln Ser Cys Ala Asp Leu Asp Lys Trp Leu 1370 1375 1380 | 4481 |
| cat ggc ctg gag agc cag att caa tct gac gac tat ggc aaa gac ctt His Gly Leu Glu Ser Gln Ile Gln Ser Asp Asp Tyr Gly Lys Asp Leu 1385 1390 1395 | 4529 |
| acc agt gtc aat att ctt ctg aaa aag caa cag atg ctg gag aat cag Thr Ser Val Asn Ile Leu Leu Lys Gln Gln Met Leu Glu Asn Gln 1400 1405 1410 1415 | 4577 |
| atg gaa gtt cg ^g aag aaa gag atc gag gaa ctg cag agc caa gcc cag Met Glu Val Arg Lys Lys Glu Ile Glu Glu Leu Gln Ser Gln Ala Gln 1420 1425 1430 | 4625 |
| g ^c g ctg agt cag gag ggg aag agc aca gat gag gtg gac agc aaa cgc Ala Leu Ser Gln Glu Gly Lys Ser Thr Asp Glu Val Asp Ser Lys Arg 1435 1440 1445 | 4673 |
| ctt act gtg cag acc aag ttc atg gag ctt ctg gag ccc ttg agt gag Leu Thr Val Gln Thr Lys Phe Met Glu Leu Leu Glu Pro Leu Ser Glu 1450 1455 1460 | 4721 |
| agg aag cat aac ctg tta gct tcc aag gag atc cat cag ttc aac agg Arg Lys His Asn Leu Leu Ala Ser Lys Glu Ile His Gln Phe Asn Arg 1465 1470 1475 | 4769 |
| gat gtg gag gac gaa atc cta tgg gtt ggc gag agg atg cct ttg gca Asp Val Glu Asp Glu Ile Leu Trp Val Gly Glu Arg Met Pro Leu Ala 1480 1485 1490 1495 | 4817 |
| act tcc aca gat cat ggc cat aac ctt caa act gtg cag ctg tta ata Thr Ser Thr Asp His Gly His Asn Leu Gln Thr Val Gln Leu Leu Ile 1500 1505 1510 | 4865 |
| aag aaa aac cag acc ctc cag aaa gaa atc cag gga cac cag cct cgt Lys Lys Asn Gln Thr Leu Gln Lys Glu Ile Gln Gly His Gln Pro Arg 1515 1520 1525 | 4913 |
| att gat gac atc ttt gag agg agt caa aac atc atc aca gat agc agc Ile Asp Asp Ile Phe Glu Arg Ser Gln Asn Ile Ile Thr Asp Ser Ser 1530 1535 1540 | 4961 |
| agc ctc aat gcc gag gct atc agg cag agg ctc gct gac ctg aag cag Ser Leu Asn Ala Glu Ala Ile Arg Gln Arg Leu Ala Asp Leu Lys Gln 1545 1550 1555 | 5009 |
| ctg tgg ggg ctc ctc att gag gaa act gag aaa cgc cat aga cgg ctg Leu Trp Gly Leu Leu Ile Glu Glu Thr Glu Lys Arg His Arg Arg Leu 1560 1565 1570 1575 | 5057 |
| gag gag gca cac aag gcg cag cag tac tac ttt gat gca gct gaa gcc Glu Glu Ala His Lys Ala Gln Gln Tyr Tyr Phe Asp Ala Ala Glu Ala 1580 1585 1590 | 5105 |
| gag gca tgg atg agt gaa cag gag ttg tac atg atg tct gag gaa aag Glu Ala Trp Met Ser Glu Gln Glu Leu Tyr Met Met Ser Glu Glu Lys 1595 1600 1605 | 5153 |
| gcc aag gat gag cag agt gct gtc tct atg ttg aaa aag cac cag att Ala Lys Asp Glu Gln Ser Ala Val Ser Met Leu Lys Lys His Gln Ile 1610 1615 1620 | 5201 |
| tta gag caa gct gtt gag gac tat gca gag aca gta cac cag ctc tcc Leu Glu Gln Ala Val Glu Asp Tyr Ala Glu Thr Val His Gln Leu Ser 1625 1630 1635 | 5249 |
| aag act agc cgg gcg ctg gtg gct gac agc cat ccc gaa agt gag cgt Lys Thr Ser Arg Ala Leu Val Ala Asp Ser His Pro Glu Ser Glu Arg 1640 1645 1650 1655 | 5297 |
| att agc atg cgg cag tca aag gtc gac aag ctg tat gct ggc ctg aag Ile Ser Met Arg Gln Ser Lys Val Asp Lys Leu Tyr Ala Gly Leu Lys 1660 1665 1670 | 5345 |
| gac ctt gct gag gag agg aga aaa ctt gat gag agg cac agg ctg | 5393 |

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|---|------|------|------|
| Asp Leu Ala Glu Glu Arg Arg Gly Lys Leu Asp Glu Arg His Arg Leu | | | |
| 1675 | 1680 | 1685 | |
| ttc cag ctc aac aga gag gtg gat gac ctg gaa cag tgg atc gct gag | | | 5441 |
| Phe Gln Leu Asn Arg Glu Val Asp Asp Leu Glu Gln Trp Ile Ala Glu | | | |
| 1690 | 1695 | 1700 | |
| agg gaa gtg gtc gca ggc tcc cat gag ttg gga cag gac tat gag cat | | | 5489 |
| Arg Glu Val Val Ala Gly Ser His Glu Leu Gly Gln Asp Tyr Glu His | | | |
| 1705 | 1710 | 1715 | |
| gtc acg atg tta caa gaa cgg ttc cga gaa ttt gct cga gac aca gga | | | 5537 |
| Val Thr Met Leu Gln Glu Arg Phe Arg Glu Phe Ala Arg Asp Thr Gly | | | |
| 1720 | 1725 | 1730 | 1735 |
| aac att ggg cag gag cgt gtg gat aca gtt aat aac atg gca gat gaa | | | 5585 |
| Asn Ile Gly Gln Glu Arg Val Asp Thr Val Asn Asn Met Ala Asp Glu | | | |
| 1740 | 1745 | 1750 | |
| ctc atc aac tct gga cat tca gat gct gcc acc att gct gag tgg aaa | | | 5633 |
| Leu Ile Asn Ser Gly His Ser Asp Ala Ala Thr Ile Ala Glu Trp Lys | | | |
| 1755 | 1760 | 1765 | |
| gat ggt ctc aat gaa gcc tgg gct gac ctc ctg gag ctc att gac aca | | | 5681 |
| Asp Gly Leu Asn Glu Ala Trp Ala Asp Leu Leu Glu Leu Ile Asp Thr | | | |
| 1770 | 1775 | 1780 | |
| aga aca cag att ctt gct gcc tca tat gaa ctt cat aag ttt tac cat | | | 5729 |
| Arg Thr Gln Ile Leu Ala Ala Ser Tyr Glu Leu His Lys Phe Tyr His | | | |
| 1785 | 1790 | 1795 | |
| gat gcc aag gag atc ttt ggc cga atc cag gac aaa cac aag aaa ctc | | | 5777 |
| Asp Ala Lys Glu Ile Phe Gly Arg Ile Gln Asp Lys His Lys Lys Leu | | | |
| 1800 | 1805 | 1810 | 1815 |
| cct gag gag ctt gga aga gat caa aac act gtg gaa act tta cag aga | | | 5825 |
| Pro Glu Glu Leu Gly Arg Asp Gln Asn Thr Val Glu Thr Leu Gln Arg | | | |
| 1820 | 1825 | 1830 | |
| atg cac acc acc ttt gag cac gac atc caa gct ctg ggc act cag gtg | | | 5873 |
| Met His Thr Thr Phe Glu His Asp Ile Gln Ala Leu Gly Thr Gln Val | | | |
| 1835 | 1840 | 1845 | |
| agg cag ctg cag gag gat gca gct cgc ctc cag gca gcc tat gca ggg | | | 5921 |
| Arg Gln Leu Gln Glu Asp Ala Ala Arg Leu Gln Ala Ala Tyr Ala Gly | | | |
| 1850 | 1855 | 1860 | |
| gac aag gct gat gac atc cag aag cgt gag aat gag gtc ctg gaa gcc | | | 5969 |
| Asp Lys Ala Asp Asp Ile Gln Lys Arg Glu Asn Glu Val Leu Glu Ala | | | |
| 1865 | 1870 | 1875 | |
| tgg aag tcc ctg ctg gat gct tgt gag ggt cgc agg gtg cgg ctg gta | | | 6017 |
| Trp Lys Ser Leu Leu Asp Ala Cys Glu Gly Arg Arg Val Arg Leu Val | | | |
| 1880 | 1885 | 1890 | 1895 |
| gac aca gga gac aag ttc cgc ttc agc atg gtg cgt gac ctc atg | | | 6065 |
| Asp Thr Gly Asp Phe Arg Phe Phe Ser Met Val Arg Asp Leu Met | | | |
| 1900 | 1905 | 1910 | |
| ctc tgg atg gaa gat gtc atc cgg cag atc gag gcc cag gag aaa cca | | | 6113 |
| Leu Trp Met Glu Asp Val Ile Arg Gln Ile Glu Ala Gln Glu Lys Pro | | | |
| 1915 | 1920 | 1925 | |
| cgg gat gtg tca tct gtt gaa ctg tta atg aat aat cat caa ggt atc | | | 6161 |
| Arg Asp Val Ser Ser Val Glu Leu Leu Met Asn Asn His Gln Gly Ile | | | |
| 1930 | 1935 | 1940 | |
| aaa gct gaa att gat gct cgt aat gac agc ttt aca gcc tgc att gag | | | 6209 |
| Lys Ala Glu Ile Asp Ala Arg Asn Asp Ser Phe Thr Ala Cys Ile Glu | | | |
| 1945 | 1950 | 1955 | |
| ctt ggg aaa tcc ctg ctg gca cgg aaa cac tat gct tct gag gag atc | | | 6257 |
| Leu Gly Lys Ser Leu Leu Ala Arg Lys His Tyr Ala Ser Glu Glu Ile | | | |
| 1960 | 1965 | 1970 | 1975 |
| aag gaa aag tta ctg cag ctg aca gag aaa aga aaa gaa atg att gac | | | 6305 |
| Lys Glu Lys Leu Leu Gln Leu Thr Glu Lys Arg Lys Glu Met Ile Asp | | | |
| 1980 | 1985 | 1990 | |
| aag tgg gaa gac cgg tgg gag tgg tta aga ctg att ttg gag gtc cat | | | 6353 |
| Lys Trp Glu Asp Arg Trp Glu Trp Leu Arg Leu Ile Leu Glu Val His | | | |
| 1995 | 2000 | 2005 | |
| cag ttc tca agg gat gcc agt gtg gca gag gct tgg ctg ctt gga cag | | | 6401 |

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|--|--|--|--|------|
| Gln Phe Ser Arg Asp Ala Ser Val Ala Glu Ala Trp Leu Leu Gly Gln 2010 2015 2020 | | | | |
| gaa cca tac cta tcc agc cgt gaa att ggc cag agt gta gac gaa gtg Glu Pro Tyr Leu Ser Ser Arg Glu Ile Gly Gln Ser Val Asp Glu Val 2025 2030 2035 | | | | 6449 |
| gag aag ctt att aag cgc cat gag gcg ttt gaa aag tct gca gcg acc Glu Lys Leu Ile Lys Arg His Glu Ala Phe Glu Lys Ser Ala Ala Thr 2040 2045 2050 2055 | | | | 6497 |
| tgg gat gag aga ttc tct gct ctg gaa agg ctg aca acg ttg gag cta Trp Asp Glu Arg Phe Ser Ala Leu Glu Arg Leu Thr Thr Leu Glu Leu 2060 2065 2070 | | | | 6545 |
| ctg gaa gtg cgc aga cag caa gag gaa gaa aga aag agg cgg cca Leu Glu Val Arg Arg Gln Gln Glu Glu Glu Arg Lys Arg Arg Pro 2075 2080 2085 | | | | 6593 |
| cct tct ccg gac cca aac acg aag gtt tca gag gag gct gag tcc cag Pro Ser Pro Asp Pro Asn Thr Lys Val Ser Glu Glu Ala Glu Ser Gln 2090 2095 2100 | | | | 6641 |
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| Ile His Cys Leu Glu Asn Val Asp Lys Ala Leu Gln Phe Leu Lys Glu 100 105 110 | | | | |
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| Gln Ile Gln Asp Ile Ser Val Glu Thr Glu Asp Asn Lys Glu Lys Lys 145 150 155 160 | | | | |
| Ser Ala Lys Asp Ala Leu Leu Leu Trp Cys Gln Met Lys Thr Ala Gly 165 170 175 | | | | |
| Tyr Pro Asn Val Asn Ile His Asn Phe Thr Thr Ser Trp Arg Asp Gly 180 185 190 | | | | |
| Met Ala Phe Asn Ala Leu Ile His Lys His Arg Pro Asp Leu Ile Asp 195 200 205 | | | | |

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 Glu Gly Lys Arg Ile Gly Lys Val Leu Asp Asn Ala Ile Glu Thr Glu
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| | | | | | | | | | | | | | | | |
|-----|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 725 | 730 | 735 | | | | | | | | | | | | |
| Gln | Ala | Asp | Ala | Asp | Asp | Ile | Asp | Ala | Trp | Met | Leu | Asp | Ile | Leu | Lys |
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| | 740 | 745 | 750 | | | | | | | | | | | | |
| Ile | Val | Ser | Ser | Asn | Asp | Val | Gly | His | Asp | Glu | Tyr | Ser | Thr | Gln | Ser |
| | | | | | | | | | | | | | | | |
| | 755 | 760 | 765 | | | | | | | | | | | | |
| Leu | Val | Lys | Lys | His | Lys | Asp | Val | Ala | Glu | Glu | Ile | Thr | Asn | Cys | Arg |
| | | | | | | | | | | | | | | | |
| | 770 | 775 | 780 | | | | | | | | | | | | |
| Pro | Thr | Ile | Asp | Thr | Leu | His | Glu | Gln | Ala | Ser | Ala | Leu | Pro | Gln | Ala |
| | | | | | | | | | | | | | | | |
| | 785 | 790 | 795 | 800 | | | | | | | | | | | |
| His | Ala | Glu | Ser | Pro | Asp | Val | Lys | Gly | Arg | Leu | Ala | Gly | Ile | Glu | Glu |
| | | | | | | | | | | | | | | | |
| | 805 | 810 | 815 | | | | | | | | | | | | |
| Arg | Cys | Lys | Glu | Met | Ala | Glu | Leu | Thr | Arg | Leu | Arg | Lys | Gln | Ala | Leu |
| | | | | | | | | | | | | | | | |
| | 820 | 825 | 830 | | | | | | | | | | | | |
| Gln | Asp | Thr | Leu | Ala | Leu | Tyr | Lys | Met | Phe | Ser | Glu | Ala | Asp | Ala | Cys |
| | | | | | | | | | | | | | | | |
| | 835 | 840 | 845 | | | | | | | | | | | | |
| Glu | Leu | Trp | Ile | Asp | Glu | Lys | Glu | Gln | Trp | Leu | Asn | Asn | Met | Gln | Ile |
| | | | | | | | | | | | | | | | |
| | 850 | 855 | 860 | | | | | | | | | | | | |
| Pro | Glu | Lys | Leu | Glu | Asp | Leu | Glu | Val | Ile | Gln | His | Arg | Phe | Glu | Ser |
| | | | | | | | | | | | | | | | |
| | 865 | 870 | 875 | 880 | | | | | | | | | | | |
| Leu | Glu | Pro | Glu | Met | Asn | Asn | Gln | Ala | Ser | Arg | Val | Ala | Val | Val | Asn |
| | | | | | | | | | | | | | | | |
| | 885 | 890 | 895 | | | | | | | | | | | | |
| Gln | Ile | Ala | Arg | Gln | Leu | Met | His | Asn | Gly | His | Pro | Ser | Glu | Lys | Glu |
| | | | | | | | | | | | | | | | |
| | 900 | 905 | 910 | | | | | | | | | | | | |
| Ile | Arg | Ala | Gln | Gln | Asp | Lys | Leu | Asn | Thr | Arg | Trp | Ser | Gln | Phe | Arg |
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| Glu | Leu | Val | Asp | Arg | Lys | Lys | Asp | Ala | Leu | Leu | Ser | Ala | Leu | Ser | Ile |
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| | | | | | | | | | | | | | | | |
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| Lys | Thr | Lys | Val | Ile | Glu | Ser | Thr | Gln | Asp | Leu | Gly | Asn | Asp | Leu | Ala |
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| | 965 | 970 | 975 | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | |
| | 980 | 985 | 990 | | | | | | | | | | | | |
| Val | Ala | Ile | Glu | Ala | Lys | Leu | Ser | Asp | Leu | Gln | Lys | Glu | Ala | Glu | Lys |
| | | | | | | | | | | | | | | | |
| | 995 | 1000 | 1005 | | | | | | | | | | | | |
| Leu | Glu | Ser | Glu | His | Pro | Asp | Gln | Ala | Gln | Ala | Ile | Leu | Ser | Arg | Leu |
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| Asp | Ala | Gln | Tyr | Met | Phe | Leu | Arg | Gln | Arg | Leu | Gln | Ala | Leu | Asp | Thr |
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| | 1125 | 1130 | 1135 | | | | | | | | | | | | |
| Gly | Trp | Asn | Glu | Leu | His | Lys | Met | Trp | Glu | Asn | Arg | Gln | Asn | Leu | Leu |
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| Glu | Ala | Phe | Leu | Asn | Asn | Gln | Glu | Tyr | Val | Leu | Ala | His | Thr | Glu | Met |
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| | 1170 | 1175 | 1180 | | | | | | | | | | | | |
| Pro | Thr | Thr | Leu | Glu | Gly | Ala | Glu | Ala | Ala | Ile | Lys | Lys | Gln | Glu | Asp |
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| Lys Met Leu Thr Ala Gln Asp Met Ser Tyr Asp Glu Ala Arg Asn Leu | | 1280 |
| 1285 | 1290 | 1295 |
| His Ser Lys Trp Leu Lys His Gln Ala Phe Met Ala Glu Leu Ala Ser | | |
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| Asn Lys Glu Trp Leu Asp Lys Ile Glu Lys Glu Gly Met Gln Leu Ile | | |
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| Ser Glu Lys Pro Glu Thr Glu Ala Val Val Lys Glu Lys Leu Thr Gly | | |
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| Leu His Lys Met Trp Glu Val Leu Glu Ser Thr Thr Gln Thr Lys Ala | | |
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| Ala Asp Leu Asp Lys Trp Leu His Glu Leu Glu Ser Gln Ile Gln Ser | | |
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| Asp Asp Tyr Gly Lys Asp Leu Thr Ser Val Asn Ile Leu Leu Lys Lys | | |
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| Gln Gln Met Leu Glu Asn Gln Met Glu Val Arg Lys Lys Glu Ile Glu | | |
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| Asp Glu Val Asp Ser Lys Arg Leu Thr Val Gln Thr Lys Phe Met Glu | | |
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| Leu Leu Glu Pro Leu Ser Glu Arg Lys His Asn Leu Leu Ala Ser Lys | | |
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| Met Leu Lys His Gln Ile Leu Glu Gln Ala Val Glu Asp Tyr Ala | | |
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| Glu Thr Val His Gln Leu Ser Lys Thr Ser Arg Ala Leu Val Ala Asp | | |
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| Ser His Pro Glu Ser Glu Arg Ile Ser Met Arg Gln Ser Lys Val Asp | | |
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| Leu Asp Glu Arg His Arg Leu Phe Gln Leu Asn Arg Glu Val Asp Asp | | 1680 |
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| Leu Glu Gln Trp Ile Ala Glu Arg Glu Val Val Ala Gly Ser His Glu | | |
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| Val Asn Asn Met Ala Asp Glu Leu Ile Asn Ser Gly His Ser Asp Ala | | |
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| Thr Ser Ser Ile Ser | Gly Pro Leu Ser | Pro Ala Tyr Thr Gly | Gln Val | | | |
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| Pro Tyr Asn Tyr Asn | Gln Leu Glu Gly | Arg Phe Lys Gln | Leu Gln Asp | | | |
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| gag cgt gaa gct gta | cag aag acc ttc | acc aag tgg gtc | aat tcc | | | 560 |
| Glu Arg Glu Ala Val | Gln Lys Lys Thr | Phe Thr Lys Trp | Val Asn Ser | | | |
| 40 | 45 | 50 | | | | |
| cac ctt gcg aga gtg | tcc tgc cga atc | aca gac ctg tac | acg gac ctt | | | 608 |
| His Leu Ala Arg Val | Ser Cys Arg Ile | Thr Asp Leu | Tyr Thr Asp Leu | | | |
| 55 | 60 | 65 | | | | |
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| Arg Asp Gly Arg Met | Leu Ile Lys Leu | Glu Val Leu Ser | Gly Glu | | | |
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| agg ctg cct aaa ccc | act aag gga cgg | atg cgg atc cac | tgt ctg gag | | | 704 |
| Arg Leu Pro Lys Pro | Thr Lys Gly Arg | Met Arg Ile His | Cys Leu Glu | | | |
| 90 | 95 | 100 | | | | |
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| Asn Val Asp Lys Ala | Leu Gln Phe Leu | Lys Glu Gln Arg | Val His Leu | | | |
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| Glu Asn Met Gly Ser | His Asp Ile Val | Asp Gly Asn His | Arg Leu Thr | | | |
| 120 | 125 | 130 | | | | |
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| Thr Leu Glu Leu Leu | Glu Val Arg Arg | Gln Gln Glu | Glu Glu Glu Arg | | | |
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| Lys Arg Arg Pro Pro | Ser Pro Asp Pro | Asn Thr Lys | Val Ser Glu Glu | | | |
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| Ala Glu Ser Gln Gln | Trp Asp Thr Ser | Lys Gly Asp Gln | Val Ser Gln | | | |
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 Val Leu Ser Gly Glu Arg Leu Pro Lys Pro Thr Lys Gly Arg Met Arg
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 Lys Val Ser Glu Glu Ala Glu Ser Gln Gln Trp Asp Thr Ser Lys Gly
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| Thr Asp Asp Tyr Tyr Arg Tyr Tyr Glu Glu Asp Ser Asp Ser Asp Lys 125 130 135 | | | |
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395

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 <212> PRT
 <213> Mus musculus

<400> 9
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 35 40 45
 Ala Ser Leu Ala Val Glu Ser Glu Asp Tyr Ser Arg Trp Arg Asp Ala
 50 55 60
 Ala Asp Ala Glu Glu Ala His Ala Glu Gly Leu Ala Arg Arg Gly Arg
 65 70 75 80
 Gly Glu Ala Ala Ser Ser Ser Glu Pro Arg Tyr Ala Glu Asp Gln Asp
 85 90 95
 Ala Arg Ser Glu Gln Ala Lys Ala Asp Lys Val Pro Arg Arg Arg Arg
 100 105 110
 Thr Met Ala Asp Pro Asp Phe Trp Ala Tyr Thr Asp Asp Tyr Tyr Arg
 115 120 125
 Tyr Tyr Glu Glu Asp Ser Asp Ser Asp Lys Glu Trp Met Ala Ala Leu
 130 135 140
 Arg Arg Lys Tyr Arg Ser Arg Glu Gln Pro Gln Ser Ser Ser Gly Glu
 145 150 155 160
 Ser Trp Glu Leu Leu Pro Gly Lys Glu Glu Leu Glu Arg Gln Gln Ala
 165 170 175
 Gly Ala Gly Ser Leu Ala Ser Ala Gly Ser Asn Gly Ser Gly Tyr Pro
 180 185 190
 Glu Glu Val Gln Asp Pro Ser Leu Gln Glu Glu Glu Gln Ala Ser Leu
 195 200 205
 Glu Glu Gly Glu Ile Pro Trp Leu Arg Tyr Asn Glu Asn Glu Ser Ser
 210 215 220

Ser Glu Gly Asp Asn Glu Ser Thr His Glu Leu Ile Gln Pro Gly Met
 225 230 235 240
 Phe Met Leu Asp Gly Asn Asn Asn Leu Glu Asp Asp Ser Ser Val Ser
 245 250 255
 Glu Asp Leu Glu Val Asp Trp Ser Leu Phe Asp Gly Phe Ala Asp Gly
 260 265 270
 Leu Gly Val Ala Glu Ala Ile Ser Tyr Val Asp Pro Gln Phe Leu Thr
 275 280 285
 Tyr Met Ala Leu Glu Glu Arg Leu Ala Gln Ala Met Glu Thr Ala Leu
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 Ala His Leu Glu Ser Leu Ala Val Asp Val Glu Val Ala Asn Pro Pro
 305 310 315 320
 Ala Ser Lys Glu Ser Ile Asp Ala Leu Pro Glu Ile Leu Val Thr Glu
 325 330 335
 Asp His Gly Ala Val Gly Gln Glu Met Cys Cys Pro Ile Cys Cys Ser
 340 345 350
 Glu Tyr Val Lys Gly Glu Val Ala Thr Glu Leu Pro Cys His His Tyr
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<210> 11
 <211> 1177
 <212> DNA
 <213> Mus musculus

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 <223> n=a or c or t or g

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<210> 12
 <211> 2998
 <212> DNA
 <213> Mus musculus

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<220>
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<222>
<223> n=(a or c or t or g)

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<210> 13
<211> 1121
<212> DNA
<213> Mus musculus
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<220>
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<222>
<223> n=a or c or t or g

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agtacccag ntaatggct ncccacatgt cactgaagga gtgtcagttc tcagcatttt 180
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<210> 14
<211> 779
<212> DNA
<213> Mus musculus

<220>
<221> misc_feature
<222>
<223> n=a or c or t or g

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<210> 15
<211> 981
<212> DNA
<213> Mus musculus

<220>
<221> misc_feature
<222>
<223> n=(a or c or t or g)

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agccatcgac agagaagttt cttcttnnt tttgatagga gctaacacag cgaccacan 180
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 ctgagagaga caattcaaca cggncctccca cccctagnca agaagttatc tccaaactgt 480
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<210> 16
 <211> 685
 <212> DNA
 <213> Mus musculus

<220>
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 <222>
 <223> n=(a or c or t or g)

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 anaangantg agccaccnngg aatttccctt aaacacactt tgatcatttc ctgcctaacc 420
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 ctctctctct cctcgtgccc aattc 685

<210> 17
 <211> 471
 <212> DNA
 <213> Mus musculus

<220>
 <221> misc_feature
 <222>
 <223> n=(a or c or t or g)

<400> 17
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 tagccaatncc agtctatgac gatttcctt tagcagttct tttttttt cttatgata 420
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<210> 18
 <211> 467
 <212> DNA
 <213> Mus musculus

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<220>
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<222>
<223> n=(a or c or t or g)

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